

--1. (Amended) Apparatus comprising a progressive die for shaping a consecutive series of adjacent discs from a strip of relatively stiff material, each of said discs having an as-received form which is fed into said die, said die comprising a series of adjacent die stations including a slot cutting initial station which receives said as-received form, a plurality of intermediate stations which shape said discs, and a cut off station which severs said discs from said strip, said slot cutting initial station including slot cutting means for forming at least one laterally extending slot between said adjacent discs while leaving at least [one] two narrow deformable [bridge] bridges connecting said adjacent discs, said bridges being sufficiently narrow to enable deformation thereof to either increase or decrease the distance between said adjacent discs. said intermediate stations including cutting means for shaping said discs, and said cut off station including cutting means for severing said [bridge] bridges.--

--3. (Amended) Apparatus according to Claim 1, wherein said slot cutting means forms said bridges with [the ends of said slot and said bridge have] an angled shape which facilitates said deformation.--

5
6
~~--5. (Amended) Apparatus comprising a strip of relatively stiff material including a series of consecutive discs formed along the length thereof, each of said discs including a center and laterally extending connecting sides on opposite sides of said center, and said centers falling substantially on an imaginary center line of said strip, at least two adjacent discs having at least one laterally extending slot therebetween [and] forming at least [one] two narrow deformable [bridge] bridges connecting said adjacent discs, said bridges being on opposite sides of said center line, and said bridges being sufficiently narrow to enable deformation thereof to either increase or decrease the distance between said centers of said adjacent discs.--~~

5
6
3
~~--6. (Amended) Apparatus according to Claim 5, wherein two laterally spaced narrow deformable bridges are provided on each side of and spaced from said center line.--~~

5
6
3
7
~~--7. (Amended) Apparatus according to Claim 5, wherein each of said [bridge has angled ends] bridges includes portions which are at an angle relative to said center line.~~

5
6
3
8
~~--8. (Amended) Apparatus according to Claim 7, wherein said [angled ends] portions have a chevron shape.--~~

B
John C. O'Neil
10

--9. (Amended) Apparatus according to Claim⁷ 5,
wherein each of said discs further has a [have at least one]
pilot hole formed therein at substantially said center and a
plurality of pilot holes formed therein spaced from said
center].--

--10. (Amended) Apparatus according to Claim⁷ 5,
wherein said strip has a scroll or zig-zag shape [longitudi-
nal center line, and two of said bridges are provided, said
bridges being spaced at equal distances on opposite sides of
said center line].--

--12. (Amended) A process for punching a series of shaped discs from [a] an elongated strip of relatively stiff material formed by pairs of adjacent discs, comprising the steps of simultaneously cutting and shaping said series of shaped discs at a plurality of stations including an initial station, a cut off station and a plurality of intermediate stations between said initial and said cut off stations. cutting at said initial station a plurality of pilot holes and at least one slot through said strip between each pair of adjacent [sections and] discs, said slot forming at least [one] two narrow deformable [bridge] bridges connecting each pair of adjacent discs, orienting said discs at said intermediate stations by engaging said pilot holes with pilot pins while shaping said discs between said bridges, adjusting the distances between each pair of adjacent discs at said intermediate stations by simultaneously deflecting said bridges when necessary to enable said pilot pins to engage said pilot holes, and severing said bridges at said cut off station.--

--13. (Amended) A process according to Claim 12, wherein each of said discs has outer sides, and further comprising the step of engaging said outer sides of each disc while at said initial station and thereby orienting each disc at said initial station [steps of cutting at least one pilot hole in each of said discs, and orienting said discs during said shaping by engaging said pilot hole]--

(1)

--14. (Amended) A process according to Claim 12,
wherein each of said bridges has sides, and further comprising
the step of forming said sides [the ends] of said
[bridge] bridges with an angular shape...
(2)

Su b 8

--15. (Amended) A process according to Claim 14,
wherein said [angular shape is] sides of said bridges are
formed to a chevron shape. --

B

--16. (Amended) A process according to Claim 12,
wherein said strip has a longitudinal center line, and cut-
ting two of said bridges [are formed, said bridges being

13

formed] at substantially equal distances on opposite sides
of said center line.--

85
S-17
Urged

--17 (Amended) Apparatus comprising a progressive die including a series of die stations, said stations including cutting means and die pilot means, the distances between said die pilot means of successive stations being substantially constant, and a strip of material shaped by said die, said strip including a series of sections and said sections having strip pilot means adapted to mate with said die pilot means, the distances between said strip pilot means at times being variable and at times different from said distances between said die pilot means, and deformable bridge means connecting adjacent sections of said strip, said sections being relatively stiff and said deformable [bridges] bridge means being sized to deform and thereby adjust said distances between said strip pilot means in order to compensate for said variable distances between said strip pilot means.

Please add the following new claims:

85
86
Q10
4
Urged

--18. Apparatus according to any of Claims 1 to 4, and further including a plurality of straddle pilots at said slot cutting initial station for engaging the sides of a disc and properly positioning said disc at said initial station.

19. Apparatus according to Claim 1, wherein said strip has a longitudinal center line, and said slot cutting means forms at least three of said bridges, said bridges being spaced apart on opposite sides of said center line.

if
Q X

Sub D 11

20. Apparatus according to Claim 19, wherein two of said bridges are provided on each side of and spaced from said center line.

Sub D 12

21. Apparatus according to Claim 20, wherein said bridges have an angled shape.

22. Apparatus according to Claim 17, wherein said sections have outer sides, and said die pilot means includes straddle pilots which are engageable with said outer sides of at least one of said sections.

23. Apparatus according to either of Claims 17 or 22, wherein said bridge means has a chevron shape.

Sub D 13

24. Apparatus as set forth in Claim 1, wherein said strip comprises motor lamination steel having a thickness of approximately .025 inch, and said die cuts each of said bridges to a lateral width in the range between substantially .050 and .070 inch.

25. Apparatus as set forth in Claim 24, wherein said lateral width is substantially .060 inch.

Sub D 14

26. Apparatus as set forth in Claim 5, wherein said strip comprises motor lamination steel having a thickness of approximately .025 inch, and said each of said bridges has a lateral width in the range between substantially .050 and .070 inch.

S 27. Apparatus as set forth in Claim 26, wherein
said lateral width is substantially .060 inch

X 28. A process as set forth in Claim ~~27~~¹³, wherein
said strip comprises motor lamination steel having a thick-
ness of approximately .025 inch, and said slot forms each of
said bridges to a lateral width in the range between sub-
stantially .050 and .070 inch.

29. A process as set forth in Claim 28, wherein
said lateral width is substantially .060 inch.

S 30 30. Apparatus as set forth in Claim 17, wherein
said strip comprises motor lamination steel having a thick-
ness of approximately .025 inch, and each of said bridge
means has a lateral width in the range between substantially
.050 and .070 inch.

31. Apparatus as set forth in Claim 30, wherein
said lateral width is substantially .060 inch.

4

32. A die for progressively cutting a series of adjacent discs from a strip of metal, said strip having a center line and lateral side edges laterally displaced from said center line, said die comprising an initial station, a plurality of intermediate stations and a cut off station, said die further comprising punch means at said initial station for cutting slot means between said adjacent discs, said slot means forming at least two spaced apart narrow deformable bridges which connect said adjacent discs, said bridges and said slot means falling on a connecting side line which extends laterally of said center line and which is between adjacent discs.

33. A die as set forth in Claim 32, wherein said two spaced apart narrow deformable bridges are on opposite sides of said center line, and said slot means falls between said bridges and on said center line.

34. A die as set forth in Claim 32, wherein four of said bridges are provided and include two centermost bridges and two outermost bridges, there being a centermost and an outermost bridge on each side of said center line.

35. A die as set forth in Claim 34, wherein said slot means includes a center slot between said centermost bridges and two outer slots between said centermost bridges and said outermost bridges.

8
X

36. Apparatus comprising a series of adjacent discs in a strip of metal, said strip having a center line and lateral side edges laterally displaced from said center line, slot means between said adjacent discs, said slot means forming at least two spaced apart narrow deformable bridges which connect said adjacent discs, said bridges and said slot means falling on a connecting side line which extends laterally of said center line and which is between said adjacent discs.

37. Apparatus as set forth in Claim 36, wherein said two spaced apart narrow deformable bridges are on opposite sides of said center line, and said slot means falls between said bridges and on said center line.

38. Apparatus as set forth in Claim 36, wherein four of said bridges are provided and include two centermost bridges and two outermost bridges, there being a centermost and an outermost bridge on each side of said center line.

39. Apparatus as set forth in Claim 38, wherein said slot means includes a center slot between said centermost bridges and two outer slots between said centermost bridges and said outermost bridges.

CJ

40. A process for progressively cutting a series of adjacent discs from a strip of metal, said strip having a center line and lateral side edges laterally displaced from said center line, comprising cutting a plurality of pilot guide hole means in each disc and cutting slot means between said adjacent discs, said slot means forming at least two spaced apart narrow deformable bridges which connect said adjacent discs, said bridges and said slot means being cut on a connecting side line which extends laterally of said center line and which is between adjacent discs.

41. A process as set forth in Claim 40, comprising cutting said two spaced apart narrow deformable bridges on opposite sides of said center line, and cutting said slot means between said bridges and on said center line.

42. A process as set forth in Claim 40, comprising cutting four of said bridges including two centermost bridges and two outermost bridges, there being a centermost and an outermost bridge on each side of said center line.

43. A die as set forth in Claim 42, comprising cutting said slot means including a center slot between said centermost bridges and two outer slots between said centermost bridges and said outermost bridges--

*55
B8
CJ
CJ
CJ*

44. Apparatus comprising a series of adjacent discs in a strip of metal, slot means between said adjacent discs, said slot means forming at least two spaced apart narrow deformable bridges which connect said adjacent discs, each of said bridges having a length which is greater than the width of said slot means.

45. A process for progressively cutting a series of adjacent discs from a strip of metal, comprising cutting a plurality of pilot guide hole means in each disc and cutting slot means between said adjacent discs, said slot means forming at least two spaced apart narrow deformable bridges which connect said adjacent discs, said bridges and said slot means being cut such that each bridge has a greater length than the width of said slot means.

46. A die for progressively cutting a series of adjacent discs from a strip of metal, said die comprising punch means for cutting slot means between said adjacent discs, said slot means forming at least two spaced apart narrow deformable bridges which connect said adjacent discs, each of said bridges having a greater length than the width of said slot means.

REMARKS

Reconsideration is requested of the objections to the wording of the specification and Claims 3, 4, and 12-17. Amendments are being made, in view of the Examiner's com-